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ABSTRACT

This study examined the relationship between varying patterns of maternal employment, the use of child care, and the infant's establishment of a reciprocal, responsive relationship with the mother. Parental and non-parental caregivers were located within a family system to examine attachment theory within an ecological framework. The subjects were 147 Australian mothers, selected while pregnant with their first child, and interviewed about work and child care arrangements when the infants were 4 and 12 months of age to document the type, amount, and duration of parental and shared care experienced by each child in the first year of life. The results indicated that secure attachment was more likely to occur when mothers' employment and children's attendance at child care exceeded 10 hours per week. Maternal satisfaction with day care arrangements and maternal beliefs about the effects of employment on their child's well being are factors which are likely to moderate the impact of infant day care on the developing attachment relationship. (Contains 17 references.) (MOK)

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MATERNAL EMPLOYMENT, INFANT CHILD CARE AND SECURITY OF ATTACHMENT AT AGE 12 MONTHS

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ABSTRACT

A sample of 147 Australian mothers, selected while pregnant with their first child, was interviewed about work and child care arrangements at infant-age 4 and 12 months to document the type, amount and duration of parental and shared care experienced by each child from in the first year of life. Security of infant-mother attachment was assessed in the Strange Situation procedure at 12 months. Results indicated that secure attachment was more likely to occur when mothers' employment and children's attendance at child care exceeded 10 hours per week. Discussion will focus on the effects of predictability of child care arrangements and differing contexts of child care on mother-child attachment.

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INTRODUCTION

The establishment of a secure attachment relationship between the infant and his or her primary caregivers is seen to be fundamental to the psychological health of the child. And conversely, insecurely-attached children are seen to "be at increased risk of low self-esteem, unhappiness and maladaptive responses" (Belsky & Cassidy, 1994, p.381). There is a considerable body of research indicating that quality of attachment, as measured in infancy, derives from patterns of mother-infant interaction which become established over the first year of life. In secure attachments, mothers interact by responding sensitively and appropriately to the full range of their infants' emotions and needs. Insecure attachments, in contrast, reflect patterns of interaction in which mothers are only inconsistently available or outright rejecting of their infants' attachment needs. Attempts to understand the antecedents of insecure attachment relationships have led to a focus on factors which may be seen as disrupting the pattern of regular and consistent responsiveness of the mother to her infant. In this context separations of mothers and infants which occur as a result of mothers working or using childcare have been considered a risk factor for the development of insecure attachment. This line of research has been driven primarly by a deficit model in which time spent in non-maternal care is seen as taking something away from the child's relationship with the mother, and a disruption to the expected sequences of infant-mother relationships (Vaughn, Deane & Waters, 1985). As a result, conclusions about the effects of maternal employment and day care on infant-mother attachment have often focused on the deleterious consequences of non-maternal care.

However the processes by which maternal employment and childcare may impact the developing mother-child relationship are not yet clearly understood. While work and child care may both involve separations of mothers and infants, they can be very different experiences for the mother and child. Maternal employment places demands on the mother which may affect mother-infant interaction patterns and hence, the attachment relationship. As Jaeger and Weinraub (1990, p.81) have proposed in their "quality of mothering model", the impact of maternal employment is seen in its effects on parental behaviour, which directly influences the quality of mother-infant interaction. Non-maternal care, on the other hand, while involving a separation between mother and child, is more appropriately seen as an extension of the parental system to include other adults and other settings.

Non-parental care requires the infant to adapt to the caregiving style of persons other than the parents, an adjustment which places emotional demands on the child. The effect on the child is directly related to the quality of the care setting, in particular, the quality of interaction between caregiver and child (Howes, Phillips & Whitebook, 1992).

The effect of the care setting on the child's attachment relationship with the mother is less clearcut. Quality of care would be expected to have an indirect effect on maternal-child interaction, through the child's level of adjustment and through the mother's confidence with the arrangement. Analysis of these effects are suited to the quality of mothering model in which "the nature of the alternate caregiving arrangements may moderate the effects of maternal employment on the quality of mother-infant interaction and hence affect attachment security (Jaeger & Weinraub, 1990, p.83). From this perspective, child care which supports and reassures the mother in her maternal role, and which meets the infant's emotional needs, would be more likely to foster a mutually responsive relationship between mother and child. Conversely, child care which is stressful for the mother, and which does not provide the infant with adequate emotional support, is likely to cause anxiety and reduce opportunities for responsive mother-child interaction.

The aim of this study was take a close look at the relation between varying patterns of maternal employment, the use of child care and the infant's establishment of a reciprocal, responsive relationship with the mother. The approach we took was to locate the study within a family system which was inclusive of parental and non-parental carers, that is, placing attachment theory within an ecological framework.

METHODS

Participants

The data are based on a sample of 147 primiparous mothers and their partners, who were recruited from a number of obstetric clinics in the Sydney Metropolitan area. The sample was not purely a volunteer one, but rather was stratified on the basis of maternal defensive style to ensure that it was representative of the broader, normal community. Demographic information

collected at the time of the prenatal interview included mothers' and fathers' age, occupation and educational level. Mothers' ages ranged from 17 to 41 years (mean 27.8), and fathers from 17 to 45 (mean 30.8). The educational status of the sample was broadly distributed; 16% had less than high school, 22% had completed their high school certificate, and 62% had either technical or university qualifications.

Procedures

1. The families were contacted after the birth of their babies, when the children were age 4 and 12 months. Amongst the information collected during home interviews were details of mothers' work patterns since the birth of the baby, and the families' use of non-maternal child care arrangements.

Maternal Work Patterns are given in TABLE 1. By the age of 4 months 33% of the mothers had returned to work, and by the end of the first year, this number had increased to 65%. At both interview points, most of the employed mothers (over 85%) were in regular part-time or full-time work; hours of work ranged from 1 to 50 hours per week. A smaller percentage of mothers worked irregular hours or were employed sporadically. The patterns of maternal employment were too complex and varied to allow a simple categorisation into working vs not working. Many women chose casual or part-time work arrangements, in order to juggle the demands of home and financial or professional responsibilities. For this reason we grouped mothers into those who worked fewer than 10 hours per week, or minimal employment, those who worked part-time (11 to 30 hours per week), and those who worked full-time (over 30 hours per week). The remainder did not take on any paid work during the child's first year.

TABLE 2 summarises the child care arrangements used by the families at infant-age 4 and 12 months. Informal Care is defined as "non-regulated care either in the child's home or elsewhere", and includes care by relatives and non-relatives; Formal Care "is defined as care that is regulated and occurs away from the child's home", and includes both Family Day Care, which is a home-based child care service, and centre care such as Long Day Care and Occasional Care (Australian Bureau of Statistics, 1994). By the age of 4 months 34% of the children were receiving some form of regular non-maternal care . Most of these were were being looked after by relatives,

babysitters, friends, neighbours, or a mixture of such informal carers. A small number (7%) were attending formal child care. By 12 months, the number of children in exclusive maternal care had dropped considerably, with 71% of families using some form of regular non-maternal care. Informal care arrangements were still the most common type of child care used (36%), but we can see a substantial increase in the use of formal child care services (24%). A small number of children attended a mixture of informal and formal care arrangements.

The use of child care reported by the families related closely to figures reported for maternal employment, but it is important to note that regular non-maternal care was used for a variety of reasons, and not just because mothers had returned to work. Approximately 25% of families were using regular child care arrangements at 12 months of age when mothers were not employed. Mothers reported that child care was also used in order for parents to spend time together, for the mother to pursue personal interests, or in order to provide opportunities for other people, such as grandparents, to develop a relationship with the baby. Conversely, maternal employment did not always require the use of child care outside the home. Eighteen per cent of the mothers who were working during the infant's first year reported that cared was provided either by themselves or their husbands. These mothers either worked from home or worked in the evenings or weekends when the father was available to look after the child. This lack of concordance between hours of maternal employment and child care usage supported our argument that the outcomes for the mother-child relationship of maternal employment and use of child care needed to be analysed separately.

2. At age 12 months, the quality of the infant-mother attachment relationship was assessed using the Strange Situation procedure and classification method (Ainsworth, Blehar, Waters, & Wall, 1978). Video-taped sessions were each analysed by two trained coders; reliability was over 80% for major category A, B, C classifications. D classifications were identified using Main and Solomon's (1990) procedures and confirmed by Dr. R. Marvin, University of Virginia.

RESULTS

Attachment Classifications

Across the sample as a whole, 59% of the children were classified as having secure attachment relationships with their mothers, with a slightly higher proportion seen in boys, 64% compared to 54% of girls. (TABLE 3) Insecure-ambivalent attachment (C) was the more common form of insecure attachment, being seen in 22% of boys and 27% of girls. Eight percent of children were found to be insecure-avoidant (A), and 9% showed a mixed A/C or Disorganised pattern. Due to the small numbers of children in the A and D groups, further analysis was based on combined insecure categories.

We should note that the overall percentage of secure infants is slightly less than that observed in other normal groups. This is likely due to our selection criteria which resulted in a representative community sample rather than a biased higher functioning volunteer sample. Our inclusion of mothers across the full range of mature and immature defense styles may also explain the higher percentage of insecure-ambivalent classifications in this group.

Maternal Employment

Looking first at the interaction between attachment at 12 months and maternal employment, our analysis showed that 66% of infants whose mothers had returned to work during the firat year were classified as securely-attached at 12 months, compared to 45% of infants whose mothers had not worked (TABLE 4). Timing of mothers' return to work was not found to influence attachment security; the distribution of secure to insecure attachments was similar regardless of whether mothers returned to work in the first 4 months or later in the first year. The extent of maternal employment, however, had a significant influence on attachment outcomes. When we looked at the distribution of secure to insecure attachment as a function of mothers' usual hours per week of work (TABLE 5), it was clear that children whose mothers worked part-time or full-time were more likely to be securely attached at 12 months. In comparison, no employment or minimal employment of less than 10 hours per week, seemed to be associated with increased levels of insecure attachment.

Maternal vs Non-Maternal Care

1. Extent of Non-Maternal Care

We then looked at children's experience of maternal and non-maternal care as a predictor of attachment security. The literature in this area has typically defined maternal care as mother care combined with up to 4 or 5 hours of non-maternal care per week (Lamb, Sternberg & Prodomidis,1992; Roggman, Langlois, Hubbs-Tait & Rieser-Danner,1994). This fuzziness in the boundary between maternal and non-maternal care has left unanswered the question of whether whether regular, but short separations from the mother during the first year of life interfere with the infant's development of a secure attachment relationship. In this study we have been able to clearly identify children experiencing part-time, full-time or minimal levels of child care from those who are cared for exclusively by their mothers.

TABLE 6 shows the distribution of secure and insecure attachment as a function of the number of hours per week of non-maternal child care received. When children were receiving more than 10 hours per week of child care, the proportion of 70% securely attached to 30% insecurely attached was quite stable. This distribution was reversed, however, for those children who attended care fewer than 10 hours a week. The odds-ratios show that these children were 4 times more likely to be classified as insecurely attached at 12 months, than children attending child care for longer hours per week. The higher levels of insecure attachment for children using non-maternal care for a minimum time was apparent regardless of whether care was commenced before age 4 months or between the ages of 5 and 12 months.

2. Type of Non-Maternal Care

We then looked at the type of non-maternal care each child was receiving during the first year. Proponents of child care have argued very strongly that studies reporting 'negative' effects of infant care are discounted when differing levels of quality are brought into the equation (Howes, Phillips &Whitebook, 1992). Australia is noted for its establishment of a federally-supported and closely regulated child care system. Family Day Care services and Child Care Centres must meet State regulations, which prescribe a minimum ratio of 1 adult per 5 children for children under two years of age.

Federal government regulations require child care centres to employ a certain proportion of qualified staff, and family day care services to provide regular training and supervision of carers by early childhood specialists. In predicting outcomes for infant-mother attachment, we expected that formal services, which emphasise professionalism and high quality care would be more supportive of the mother-child relationship than informal arrangements, where government regulations are not enforced and quality of care tends to be more variable.

TABLE 7 gives the distribution of secure and insecure infant-mother attachment for the whole sample by type of care groupings : exclusive maternal care, informal carers, Family Day Care, Centre-based childcare, and mixed arrangements which combined formal and informal settings. Whilst the proportions of secure to insecure attachment classifications were almost identical for the maternal, informal and mixed care groups, children in formal services were found to have elevated levels of secure attachment. This was particularly true for the group of children attending Family Day Care, where all children were securely attached at 12 months. This type of child care has a number of advantages; group size is very small, care is provided in a safe, home environment, and carers are supervised and supported by qualified early childhood staff.

CONCLUSION

In general, our results contradict reports that early and extensive maternal employment and non-maternal child care may be a risk factor for the increased occurrence of insecure attachment (Belsky & Eggerbeen,1991; Lamb et al, 1992). In our sample, where the selection criteria increased the likelihood of insecure infant-mother attachments, security in the mother-child relationship was associated with mothers' return to full or part-time work during the first year, and with a pattern of using more than 10 hours per week of regular non-maternal child care.

We have argued that research into the development of the infant-mother attachment relationship needs to take account of the different, yet overlapping influences of maternal employment and non-maternal care. Experience of non-maternal care is conceptualised as having a direct effect on the infant.

Our results support the view that continuity and predictability of care are basic requirements for children's emotional security. Although minimal hours of employment or child care may mean less time apart for mother and child, from a quality of caregiving perspective, minimal hours of care are a disruptive experience for the infant, and more likely to be emotionally unsettling. Short, irregular periods of child care may be insufficient for the child to develop a sense of familiarity and mastery over the separation experience. And this pattern of separation, which is more likely to remain traumatic for the child, may have a destabilising effect on the child's attachment relationship with the mother. Maternal employment, on the other hand, is conceptualised as having an indirect effect on the infant. Employment influences on the infant-mother attachment relationship occur via the mediating effects of maternal attitudes and personality factors and the quality of mother-child interaction (Jaeger & Weinrab, 1990). The association we have reported between insecure attachment and minimum or no maternal employment during the infant's first year raises the question of whether there are maternal factors which differentiate mothers who decide not to return to work or to work a minimum number of hours. A number of areas of research would support this interpretation. For example, studies into the interaction between maternal separation anxiety and employment have reported that mothers who worked the least number of hours per week were the most concerned about the effects of separation on their infants (Stifter, Coulehan & Fish, 1993). Similarly, a recent study of over 1300 families has found that mothers who believed maternal employment had risks for their infants used child care for fewer hours (NICHD, 1996). In our current socio-economic climate, where dual-earner families have become the norm, it may be that a maternal pattern of no employment or minimum employment is a marker of personal conflict or anxiety about being away from the baby, pointing to maternal attitudes which may be associated with difficulties in the mother-infant attachment relationship.

Our research has also attempted to add to our understanding of how infant day care services can best support the developing infant-mother relationship, and is in keeping with calls for a new agenda in child care research (Ochiltree & Edgar, 1995), and predictions that "future work will reveal that the quality of care provided by both the parent and by caregiver(s) will determine the security of the infant-parent attachment relationship" (Belsky & Cassidy, 1994, p.392). Our study, which was able to compare attachment outcomes

across a variety of child care arrangements, has indicated that government regulated services which met high standards of quality were associated with increased levels of secure attachment. This was particularly evident for children attending Family Day Care, which offers the double advantage of consistent care within the intimacy of a home environment, and professional supervision and support to the carer by qualified early childhood staff. This form of non-parental child care ensures the level of quality and sensitive individual attention most likely to support and enhance the mother-child relationship. In our sample, where overall rates of insecurity are somewhat elevated, the increased occurence of secure attachment for children in Family Day Care raises the possibility of a compensatory effect associated with this form of infant day care.

Our on-going research will further examine this question of child care service types and support for parent-child relationships. Studies into the antecedents of secure and insecure infant-mother attachment need to consider both interactive and individual contributions arising from maternal personality characteristics and the quality of infant care. Maternal satisfaction with day care arrangements and maternal beliefs about the effects of employment on their child's well-being are factors which are likely to moderate the impact of infant day care on the developing attachment relationship. And high quality child care may provide a stabilising effect for both mothers and children, which may moderate and enhance the quality of interaction between infant and mother.

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TABLE 1.

MOTHERS' WORK ARRANGEMENTS AT INFANT-AGE 4 AND 12 MONTHS

		4 MOS N=147	12 MOS N=147
Not working	%	.67	.35
	N	(98)	(51)
Working	%	.33	.65
	N	(49)	(96)

EXTENT OF MOTHERS' WORK HOURS

		4 MOS N=49	12 MOS N=96
< 10 hrs/wk	%	.35	.17
	N	(17)	(16)
11-30 hrs/wk	%	.53	.51
	N	(26)	(49)
> 30 hours/wk	%	.12	.32
	N	(6)	(31)

TABLE 2.

TYPE OF CHILD CARE USED AT INFANT-AGE 4 AND 12 MONTHS

TYPE OF CARE		4 MOS N=147	12 MOS N=147
Mother only	%	.66	.29
	N	(99)	(42)
Father	%	.06	.08
	N	(9)	(12)
Informal Care	%	.20	.36
	N	(29)	(53)
Formal Care	%	.07	.24
	N	(10)	(36)
Mixed Informal /Formal	%	.01	.03
	N	(2)	(4)

TABLE 3.

SECURITY OF INFANT - MOTHER ATTACHMENT AT AGE 12 MONTHS

	MALE N=77	FEMALE N=68	TOTAL N=145
	%	%	%
Anxious-Avoidant (A)	.06	.09	.08
Secure (B)	.64	.54	.59
Anxious-Ambivalent (C)	.22	.27	.24
Disorganised (D, A/C)	.08	.10	.09

TABLE 4.

SECURITY OF INFANT - MOTHER ATTACHMENT AT AGE 12 MONTHS BY MATERNAL EMPLOYMENT IN THE FIRST YEAR

	Working	Not Working
	N=98	N=47
	%	%
Secure	.66	.45
Insecure	.34	.55

Chi-square (df, 1) = 6.17 p=.013

TABLE 5.

SECURITY OF INFANT-MOTHER ATTACHMENT AT AGE 12 MONTHS BY EXTENT OF MATERNAL EMPLOYMENT

	Maternal Employment Hours			
	None	Minimal <10 hrs	Part-time 11-30 hrs	Full-time >30 hrs
	N=50	N=16	N=49	N=30
	%	%	%	%
Secure	.46	.44	.74	.67
Insecure	.54	.56	.26	.33

Chi-square (df, 3) = 10.02 p=.018

TABLE 6.

SECURITY OF INFANT-MOTHER ATTACHMENT AT AGE 12 MONTHS BY EXTENT OF CHILD CARE

	Hours of Non-Maternal Care			
	None	Minimal <10 hrs	Part-time 11-30 hrs	Full-time >30 hrs
	N=50	N=16	N=49	N=30
	%	%	%	%
Secure	.51	.39	.70	.71
Insecure	.49	.61	.30	.29

Chi-square (df, 3) = 9.86 p=.020

TABLE 7.

SECURITY OF MOTHER-CHILD ATTACHMENT AT 12 MONTHS BY TYPE OF CHILD CARE

	Mother	Informal	Mixed	Family Day Care	Centre Care
	N=41	N=64	N=7	N=14	N=19
	%	%	%	%	%
Secure	.51	.55	.57	1.00	.63
Insecure	.49	.45	.43	-	.37

Chi-square (df, 4) = 11.4 p=.022